

# PATENT COOPERATION TREATY

REC'D 29 SEP 2005

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From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/IB2005/051130

International filing date (day/month/year)  
06.04.2005

Priority date (day/month/year)  
13.04.2004

International Patent Classification (IPC) or both national classification and IPC  
H02M1/10

Applicant  
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/051130

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/B2005/051130

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	3-5 -
	No: Claims	1,2,6,7
Inventive step (IS)	Yes: Claims	3-5
	No: Claims	1,2,6,7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:  
D1: US-A-6 061 259 (DEMICHELE ET AL) 9 May 2000 (2000-05-09)  
D2: EP-A-1 283 590 (SOMFY SAS) 12 February 2003 (2003-02-12)  
D3: EP-A-0 622 889 (PHILIPS ELECTRONICS N.V; PHILIPS ELECTRONICS NV) 2  
November 1994 (1994-11-02)
2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
3. Independent Claim 1
- 3.1. The document D1 discloses (the references in parentheses applying to this document) a voltage regulating circuit (read column 3, lines 22-25) comprising :
  - a rectifier (4) for receiving an AC voltage (Input connections 1) and for generating a rectified AC voltage, and
  - a capacitor (7) connected in parallel with said rectified AC voltage for providing a DC voltage over a load (23), and
  - a unidirectional current switch (switch 6, conducting only positive, rectified current thus working as a unidirectional current switch) provided between the rectifier (4) and the capacitor (7), and
  - a control block (adaptive thresholder 8) arranged to activate the switch (6) at selected instances during negative slopes of the rectified AC voltage (see figures 2b and 2c, showing a conduction of switch 6 during part of the trailing edge of the rectified voltage) so that said DC voltage does not exceed a predetermined voltage limit ( $V_{th}$ , read column 5, lines 49-51).

The subject-matter of claim 1 is therefore not novel (Article 33(2) PCT).

- 3.2. It is further noted that the subject-matter of claim 1 also lacks novelty with respect to documents D2 and D3, having a disclosure content similar to that of D1.

4. Dependent Claims

4.1. Dependent claims 2, 6 and 7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D3 and the corresponding passages cited in the search report.

- The additional feature of claim 2, the control block receiving the AC voltage or the rectified AC voltage and the voltage over the load, is known from D1, column 5, lines 4-8,
- The additional feature of claim 6, the rectifier being a diode bridge rectifier, is known from D1-D3 as a common embodiment,
- The additional feature of claim 7, the unidirectional switch being a thyristor, appears to be a slight modification of the teachings of the prior art (replacing a transistor by a thyristor), which comes within the general practice of a person skilled in the art, especially as the advantages thus achieved can be readily be contemplated in advance (the thyristor is adapted to higher currents).

4.2. The combination of the features of dependent claims 3-5, ie the specific control block of figure 3, is neither known from, nor rendered obvious by, the available prior art. The reasons are as follows: None of the prior art documents discloses an indication, hint or teaching towards the comparison between the rectified AC input voltage and a voltage from a DC voltage feedback loop specifically comprising an integrator. Although the use of PI controllers in voltage control loops is known, this specific loop combination would not appear to be a straightforward option for the man skilled in the art.